

CLAIMS

1. A delivery system for promoting bone growth comprising:

- a covering formed of a water absorbing gelatinizable material; and
- a bone growth promoting material contained within the covering.

2. A delivery system as recited in claim 1, wherein the water absorbing gelatinizable material comprises at least one of gelatinizable gauze, oxidized cellulose, oxidized regenerated cellulose, and cat gut.

3. A delivery system as recited in claim 1, wherein the water absorbing gelatinizable material is resorbable.

4. A delivery system as recited in claim 1, wherein the water absorbing gelatinizable material is non-resorbable.

5. A delivery system as recited in claim 1, wherein the bone growth promoting material comprises at least one of calcium hydroxyapatite, beta-tricalcium phosphate, purified coral shell, freeze dried natural bone powder, freeze dried natural bone particles, demineralized natural bone powder, or demineralized natural bone particles, shards or fragments.

6. A delivery system as recited in claim 1, wherein the delivery system has an elongate sausage-like configuration.

7. A delivery system as recited in claim 1, wherein the delivery system has a pillow like configuration.

8. A delivery system as recited in claim 1, wherein the delivery system is stored within moisture-resistant packaging.

9. A delivery system as recited in claim 1, wherein the delivery system further comprises an adhesive dispersed within the bone growth promoting material.

10. A delivery system as recited in claim 9, wherein the adhesive comprises at least one of fibrin powder and chopped adhesive gauze.

11. A method of manufacturing a delivery system for promoting bone growth comprising:

forming a water absorbing gelatinizable material into a hollow tube or pouch;

inserting a bone growth promoting material into at least a portion of the tube or pouch;

closing one or more initially open ends of the tube or pouch to form a delivery system for promoting bone growth.

12. A method of manufacturing as recited in claim 11, wherein the act of closing one or more ends of the tube or pouch comprises wet sealing and then drying the ends.

13. A method of manufacturing as recited in claim 11, wherein the tube or pouch is divided into a plurality of individual sections that are separated and individually sealed so as to form a plurality of delivery systems from a single tube or pouch filled with the bone growth promoting material.

14. A method of promoting bone growth, comprising:
providing the delivery system recited in claim 1; and
placing the delivery system adjacent to bone tissue to be augmented.

15. A method as defined in claim 14, wherein the delivery system is placed into a void or defect resulting from the removal of a tooth.

16. A composition for promoting bone growth comprising:
a bone growth promoting material in granule or powder form; and
a thickener dispersed among the bone growth promoting material so that, upon addition of water, the composition forms a viscous gel or firm putty.

17. A composition as recited in claim 16, wherein the thickener comprises at least one of gelatinizable gauze, oxidized cellulose, oxidized regenerated cellulose, or cat gut ground up or in powder form.

18. A composition as recited in claim 16, wherein the thickener comprises a proteneous material.

19. A composition as recited in claim 18, wherein the proteneous material comprises a biocompatible gelatinous collagen material.

20. A composition as recited in claim 16, further comprising water and a preservative.

21. A composition as recited in claim 16, wherein the composition is pre-loaded in dry form within a syringe.

22. A composition as recited in claim 16, wherein the composition is pre-loaded together with water and a preservative within a syringe.

23. A method of promoting bone growth, comprising:
providing the composition recited in claim 16;
adding water to the composition so as to form a viscous gel or firm putty; and
placing the viscous gel or firm putty adjacent to bone tissue to be augmented.

24. A method as defined in claim 23, wherein the viscous gel or firm putty is dispensed adjacent to the bone tissue by means of a syringe.

25. A method of promoting bone growth, comprising:

placing a bone growth promoting material adjacent to bone tissue to be augmented;

dispensing a polymerizable resin from a syringe onto the bone growth promoting material; and

curing the polymerizable resin so as to form a barrier layer over the bone growth promoting material.

26. A method as recited in claim 25, wherein the polymerizable resin is light cured.

27. A method as recited in claim 25, wherein the polymerizable resin is chemically cured.